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Sterile neutrino mass and mixing from cosmology and laboratory searches

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In my talk, I will present new constraints on sterile neutrino mixing parameters obtained from both cosmological and direct measurements. For the first time, we model the sterile in a full 3+1 framework coupled to all other neutrino flavours and consistently calculate the cosmological perturbations. CMB data dominates the resulting constraints on mass splitting and the mixing matrix elements. In addition, we translate the cosmological bounds to the parameters directly probed by laboratory searches, m_β and $m_{\beta\beta}$, and set independent competitive limits.
We also find that various hints of eV-scale sterile neutrinos from short-baseline experiments are in strong tension with cosmological constraints.

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